IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT APPLICATION

Entitled : device for injecting cooling air into a turbine rotor

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ABSTRACT OF THE DISCLOSURE

A device for injecting cooling air into a turbomachine turbine rotor, the device comprising a plurality of injectors distributed regularly around a longitudinal axis of the turbomachine and mounted between an inner shroud and an outer shroud, each injector of aerodynamic profile comprising, between a leading edge and a trailing edge, a suction side wall and a pressure side wall, the cooling air passing through the injectors being ejected towards through orifices in the turbine rotor via a flow section forming an aerodynamic throat between the trailing edge of one injector and the suction side wall of an immediately adjacent injector, wherein, in order to modify the section of the aerodynamic throat as a function of the temperature of the cooling air passing through the injectors, each injector comprises a bimetallic structure with a first metal material forming a major portion of the structure of the injector and having a first coefficient of thermal expansion, and a second metal material forming a complementary portion of the structure in the vicinity of the suction side wall meeting the trailing edge of the injector, and having a second coefficient of thermal expansion that is smaller than the first.